MODIS Technical Team Meeting
Thursday, January 31, 2002
Building 33, Room E125
1:30 PM

Vince Salomonson chaired the meeting. Present were Barbara Conboy, Bill Barnes, Steve Kempler, Shaida Johnston, Dorothy Hall, Jack Xiong, Eric Vermote, Wayne Esaias, and Chris Justice, with Rebecca Lindsey taking the minutes.

1.0 Upcoming Meetings

- IGARSS 2002, June 24-28, 2002 in Toronto (abstract deadline past)
- 34TH COSPAR Scientific Assembly, October 10-19, 2002, in Houston, TX, (abstracts due 1 May)
- AGU, Spring, May 28-Jun 1, Washington, D.C.
- AMS, Atmospheric Radiation and Atmospheric Physics, first week of June, Odgen, Utah,
- MODIS Land Cover Meeting,, June 3-5 (tentative), Greenbelt, MD
- MODIS Community Outreach Workshop on MODIS Vegetation Variables (VI/LAI/FPAR/NPP), July 15-19th 2002, University of Montana, Missoula, MT
- Remote Sensing of the Earth's Environment from Terra, a workshop at the International Summer School on Atmospheric and Oceanic Sciences, August 25-30, 2002, L'Aquila Italy

2.0 Meeting Minutes

2.1 Opening Discussion

Salomonson reported that he had sent out a notice that the MODIS Data Processing Review Team (MDPRT) and MODIS Data Processing Tiger Team (MDPTT) reports are available on the Web. They can be accessed by going to the MODIS Home Page and looking under the "what's new" section.

Hall reported on some difficulties that she recently encountered in ordering MODIS data. She had ordered 44 MODIS snow maps from NSIDC and had wanted to get the MOD02 data from the DAAC as well. But when she tried to get those data using the EDG, there were only 20 matching MOD02 data granules from Version 3. She was able to fill in all but six from the Version 1 data, but there were those six that were totally missing from either collection. Kempler responded that he wasn't sure what the problem was, but that all the data should have been available in Collection 3. [Post-meeting note: Hall re-ordered some of the data that had previously been missing, and it was "found." Hall's preliminary conclusion is that the version 3 data are not missing, but that the Goddard DAAC's system problems of last week caused the incomplete order. Kempler was informed via e-mail.]

Hall said the maps were from selected days in 2001, from 1-89. When she encountered the problem, she asked her colleague, George Riggs, if he knew how to get the data. He was able to find the data using WHOM. Hall felt this was a serious problem. While she knew to look for the data in Version 1, most users would not. Salomonson expressed frustration with the continuing problems with MODIS data product access and distribution. While it is good that we have

an alternative via the Terra WHOM, it would be good to have one interface to present to the world. He added that per a meeting at NASA headquarters on Monday, he had received an action to organize some sort of effort on MODIS product access that would be similar to the one organized to deal with MODIS data processing. The exact approach to be used for this effort is TBD.

Hall also reported that Riggs had heard there were plans to do away with an SDST machine called MODIS XL. Riggs indicated that they do a lot of their work on that machine, and it facilitates code deliveries and testing. If SDST gets rid of that machine and does not replace it with something similar, it will mean a lot more work for Riggs and the other cryosphere code developers. For example, they'll have to add tool kit to their own machines. Vermote suggested that she should talk with Robert Wolfe or Ed Masuoka.

Salomonson said that Rob Simmon of the Earth Observatory was having trouble doing visualizations that he was previously able to do because of HDF EOS Version 4 and Version 5 incompatibilities. Kempler said that there are tools out now for people to begin learning how to use the Version 5 data. The ECS position is that they will continue to support both versions for a period of time.

2.2 Instrument Update
Barnes reported that the pre-ship review for Aqua would be next week. MCST is working with Chris Moeller to develop a Band 26 striping correction that uses Band.5. Barnes feels that when Moeller gets a little closer, MCST will ask the whole science team for approval before they put that correction into L1B.

2.3 Data Issues
Salomonson asked how many of the MODIS ATBDs could be considered up to date. Justice responded that many of the changes to the land ATBDs were minor and that the algorithms were basically the same. Vermote was less confident about saying that for his algorithm. He indicated that while the science is the same, the algorithm has changed. Hall indicated that they had updated ATBDs in September of 2001. Esaias said that Oceans needs to update their ATBDs, especially with regards to these most recent changes. Salomonson indicated he would prepare an e-mail to the team urging everyone to check their ATBDs and other information on the Web to see if it is up-to-date. This is of importance because we are now entering a stage where the MODIS products are generally useful and nominally available for science and applications and it is imperative that the user community be able to access reliable background information on the products.

Salomonson went on to say that there has been a bit of progress with the software release issue. The Software Usage Agreement (SUA) have been reviewed and rewritten by the Goddard Chief Counsel and sent back to the Goddard Patent Counsel. It is currently applicable to non-governmental entities. It will still need some refinements for use by governmental entities. The surface reflectance code and Level 1 A and L1B should be operational from the Direct Broadcast System tomorrow (February 1), just as soon as the SUA is implementable.

Salomonson asked whether the issue of new PGEs associated with future reprocessing had been discussed yesterday at the PIP meeting. His understanding is that there are many new PGEs to be integrated, and he felt that they should all be reviewed carefully. He invited Shaida Johnston to play a role in that discussion from the point of view of end-to-end systems engineering and overall efficiency and operability. Esaias asked if the disciplines should provide an assessment of potential production impacts. Salomonson said yes.

Salomonson thought the group should know that there is some discussion initiated by NASA Headquarters/Code Y to Goddard about having SeaWiFS capabilities being used for the processing MODIS oceans data. A plan will be developed in response to this request over the next several months and reviewed and coordinated by the Earth Sciences Directorate management.

Salomonson reported that he had seen plans developed by Mike Teague for handling near term processing issues. Salomonson wondered how those plans would be affected by the Aqua MOSS tests. Kempler responded that those are not intrusive tests, and the processing of Terra MODIS data should continue un-impacted by MOSS. Salomonson felt that Teague's e-mail was a good starting point for how to proceed, and that the team would have further discussion on the issue.

Related to the issue of Aqua MOSS tests, Esaias said that there was some discussion at the PIP meeting about code readiness for Aqua launch. There was uncertainty about when software would be frozen before launch. While PGEs 1, 2, and 3 could be considered launch ready, there are still some changes that are needed for processing once door are opened. The cloud mask code needs changes as well. Johnson replied that the freeze date is February 18th. She did not know how long the freeze would be in effect. She will be pursuing the question with ESDIS.

Barnes brought up the issue of the L1B band aggregation scheme. Currently, MCST takes the 500-m bands and aggregates to 1 km, but the dead detectors expected on Aqua will affect that since there are several dead detectors in a row. Vermote indicated that he was satisfied with the way the aggregation is currently done, and he can accept that it will simply produce striping in the images. Salomonson tentatively agreed to keep using the current approach.

Justice asked if the strategy for Aqua was still to generate some public relations first-look images, and also to do what we can in terms of processing some example L2 and L3 products for initial instrument evaluation and PR, but not to do full-scale production right off the bat. Products would be phased in, and would be sent to DAACs only when they had achieved provisional quality. Salomonson said that was in line with what he had reported at NASA Headquarters. He was asked if the limited PR images and such that we made would be available at the DAACs, and Salomonson had indicated that we would work with the DAAC on that matter. Justice added that for the PR it would be good to show Terra and Aqua together.

Kempler reported that the DAAC is participating in the Operational Readiness Review. He thinks the current staffing situation will not be adequate once Aqua comes online. Kempler reported that new ECS Version 6A.05 will be accepted only after he had received and reviewed thoroughly the full test documentation and reports. The new drop may wait until after launch depending on test completions and launch date.

Kempler asked about whether the team felt the need for the "expedited data" command, that is intended to be used to get a quicker than normal flow of data from the sensor and spacecraft in the event of an emergency. Xiong and Barnes said that MCST doesn't need it, as delivery is quick enough when they need it.

Kempler went on to say that installation of the new firewall for security purposes has been problematic. The staff is meeting each day to resolve the list of issues associated with its installation. Kempler concluded by saying that production is going well.

Johnston commented that she was beginning to think that the team might benefit from using a calendar of milestones or dates that would help them get a sense of where the system is going.

2.4 Oceans Update
Esaias reported that he had sent Jack Kaye two new SST images comparing summer and winter, and told him that David Herring and Oceans were working toward press release for the week after next at the AGU/ASLO Ocean Sciences Meeting. With the release, they will be able to say that SST is a validated product. We will need to update the MODIS product status web pages to reflect that.

Esaias also reported that the Aqua team has arranged some web casts the week preceding the upcoming Ocean Sciences Meeting in Hawaii. He will be participating in one next Friday with Dennis Clark from the MOBY shore site. Miami will make public a direct broadcast based rapid release web site soon, that will use Direct Broadcast data sent from Goddard to make day and night SST and one chlorophyll product from the East Coast. The data will be kept online for about 14 days, which is about the time it takes the data to show up in the DAAC.

Esaias reported that Bob Evans analysis of RMS errors of a MODIS versus MOBY comparison of water-leaving radiances using the most updated calibration shows that errors have gone down about 30% from the numbers he reported at science team meeting. He feels certain the delivery on March 7 of the new PGEs for reprocessing will be made on time.

Esaias said the group is talking about what would be involved in changing the names of the MODIS chlorophyll products to make them more logical or straightforward for users. This will be discussed at the weekly discipline telecon. It would require changing a significant amount of metadata and ESDTs.

2.5 Land Update
Justice reported on plans to organize three or four workshops in late spring-early summer to do outreach to the Land user community. They are developing several informational packages to help users understand and use land products. Steve Running will work with Alfredo Huete and Ranga Myneni to do one for vegetation and productivity. John Townshend will do one for land cover, and Alan Strahler will do one for surface radiation.

Vermote reported that they are moving forward in examining the feasibility of a reduced resolution set of products per the recommendation from the MDPRT. In the short term, we are going to work on prototypes of products with PIs who are interested and have SCFs develop these. He will be doing one for surface reflectance, and Ranga Myneni has expressed interest in doing one for LAI and FPAR. Hall is willing as well. Vermote thought it advisable to begin prototyping, and those examples could be helpful input to any review and decision-making process.

2.6 MAST Update
Salomonson indicated that we are considering July for the next Science Team Meeting, which is about 90 days after launch. If there is a need for Science Team discussion before then, a telecon approach would be used. Conboy said the best week for the Science Team meeting so far seems to be the week of July 22.

2.7 MODAPS Update
Ed Masuoka was unable to attend, and provided a written summary of MODAPS status and plans, which is included below.

1. Complete year processing will finish on Friday, February 1.
2. Mike Teague has developed the reprocessing plan below in concert with the GSFC DAAC.
3. Starting on Friday, for three days the DAAC will push 2 weeks of Ocean data Days 65-80
4. On Monday, DAAC will begin remaking level1's with GDAS. MODAPS will complete the reprocess of items 3 and 4 before 2/19 with SST having highest priority due to Ocean Meeting Announcement.
5. Installation of 125KVA PDU target date for completion is 2/15 with ultimate deadline of 2/22.

3.0 Action Items

New Items
3.1 Hall to provide Kempler detailed information on the L2 Snow products that were unavailable through EDG in Version 3.
3.2 Kempler to check with user services about missing snow data.
3.3 Salomonson to send en email to group about the status of ATBDs.
3.4 Kempler to send Johnston his ORR charts.

Old Items
3.5 Reber to send Justice the mailing list that has members of the DAWG.
Status: Open.
3.6 Justice to contact Bob Whacker.

Status: Closed

3.7 Ramsay to forward Justice an email from him.

Status: Closed

3.8 Discipline leads to meet to resolve the issue of beta-release code and science-quality code, and what we need to say about it.

Status: Open.

3.9 Technical team to discuss further the issue of predicted ephemeris data and how to improve it.

Status: Open.